

## Taking responsibility for complexity

When is a policy problem complex, why does it matter, and how can it be tackled?

### Key points

- It is crucial to recognise when policy and programming faces complexity, rather than sweeping it under the carpet
- Traditional approaches to implementation do not apply when it comes to complex problems, and can have serious side-effects
- Appropriate responses need to work with the constraints on where, when and how knowledge and decision making can be linked

**M**any of the problems that face policy-makers are complex. Implementation must often contend with interlinked problems, navigate non-linear and unpredictable change processes, and engage a diverse range of stakeholders (Ramalingam and Jones, 2008).

This Briefing Paper builds on ODI research over three years to review the implications of complexity for policy and programme implementation. It has three aims: to give readers the tools to decide when a problem is complex, outline why this matters, and provide guidance on how to achieve results in the face of complexity.

There is a growing collection of models, tools and approaches to intervene effectively in the face of these so-called 'wicked' problems to help implementers deal with the challenges more systematically, explicitly and rationally.

However, attempting to address complexity is a double-edged sword. On the one hand there are tools to use and growing legitimacy for approaches not previously seen as 'scientific' or 'rigorous'. On the other hand, it means giving visibility to some practices that were once hidden from sight. Actors will find themselves held accountable for aspects of their work that used to slip beneath the radar, such as the political and relational challenges of implementation. This may be an uncomfortable transition. However, it is essential in order to ensure the effective implementation of policies and programmes.

### Defining complex problems

Many problems that are faced in international development are complex. Problems labelled as complex in the past include promoting governance and facilitating institutional change, managing natural resources and ecosystems,



**Implementing agencies need to facilitate decentralised action and self-organisation, as demonstrated in the Sri Lankan agricultural sector.**

and enabling economic growth. Tackling some issues is similar to following a cake recipe, or even building a rocket to the moon, with tasks divided into discrete elements for specialists. But complex problems have an altogether different nature (Glouberman and Zimmerman, 2002). Some commentators label them 'wicked problems', without form, structure or solution.

There are three reasons why complex problems present challenges for the implementation of policy and the promotion of change. These three characteristics of complex issues mean that traditional tools for implementation and management do not work so well in these contexts.

First, the capacities to tackle complex problems are often distributed across a range of players. Problems manifest themselves in different ways at different levels, and decision-makers at one level see only the dynamics of a problem for which they have responsibility. No single organisation is in full control of progress towards a particular objective, and action may require collaboration from, and negotiation

### Overseas Development Institute

ODI is the UK's leading independent think tank on international development and humanitarian issues.

ODI Briefing Papers present information, analysis and key policy recommendations on important development and humanitarian topics.

This and other ODI Briefing Papers are available from [www.odi.org.uk](http://www.odi.org.uk)

with, a variety of actors. Traditional approaches to implementation are ill-suited to these problems as they assume that the implementing organisation has the capacity to tackle the issue alone, and that policy responses will have a smooth hierarchy. Other actors are a ‘means to an end’ and their participation is as instruments to achieve pre-determined goals.

Second, complex problems are, by their very nature, difficult to predict. Some issues are not amenable to detailed forecasting, and processes of change always encounter trends that have not been foreseen. Rather than fixing the shape of policy responses in advance, responses need the flexibility to adapt to emerging insights. However, traditional approaches too often assume that causality is well-established, and that the dynamics of a problem are readily predictable. Much work goes into analyses and negotiations before action; implementation is then relatively rigid, with programmes and projects tied to a fixed schedule and plan.

Third, complex problems involve conflicting goals. There may be many divergent but equally plausible interpretations of a policy issue, with different groups coming at it from different start points or assumptions, and proposing measures to meet different objectives. With this ambiguity and seemingly conflicting evidence, decisions must be interpretive and communicative, based on negotiated understandings and the integration of contrasting perspectives. Traditional approaches assume that knowledge is a neutral and apolitical instrument to achieve well-agreed goals. Implementation tools rely on tightly defined goals and narrow sets of indicators, with information fed in to promote ‘what works’.

### **The drawbacks of traditional tools**

Traditional approaches such as logical framework analysis, results-based management, and other tools from the stock of ‘scientific management’ are based on assumptions inappropriate for complex problems. When they are applied to such problems, there can be negative side-effects.

First, their frameworks and instruments assume that the problem is not complex, so their relevance is limited. Shoehorning a problem of one type into the shoe that fits another type of problem can be a waste of time and money, with important aspects overlooked and implementation often proceeding with limited guidance from the formal tools and structures.

Second, by ignoring certain features of implementation, key aspects of a problem are systematically hidden from the formal tools and frameworks for managing policies and programmes. The process becomes harder to understand for outsiders and a divide may emerge between those involved in implementation and those charged with supporting it.

Third, where implementation reforms are tied to inappropriate assumptions there may be perverse incentives for implementers. They may become risk averse or aim for ‘low hanging fruit’, rather than taking opportunities that will lead to long-term, sustainable change.

We can see that persistent and well-recognised implementation issues bear the hallmarks of these negative side-effects. The log frame, for example – the key planning tool for development agencies – can often be irrelevant or uninformative, revealing little of the real ideas and approaches that are the basis for programmatic success. There are also well-known issues with performance frameworks and indicators that are of little use to programming (Jones, 2011). Natsios (2010) reports a widening divide between those involved in development programming and those charged with its management and support, evidenced by the recent ‘push back’ against some of the reforms that are coming in under the ‘results’ agenda.

In the face of these problems it is easy to be sceptical. Complexity could be an excuse to dodge responsibility for achieving results. It may make ‘knowledge’ seem less useful for implementation as the ‘rational’ model, based on the guidance of institutions towards common goals, begins to look like an irrelevant ideal. But the main challenge is not necessarily intractable problems, or poor application of the right tools, but rather the use of the wrong tools for the job.

### **Building solutions**

How can policies and programmes be best implemented in the face of complexity? In recent years, an area known as the complexity sciences has improved our understanding of complex problems. It has provided concepts and ideas around which both old and new insights have been organised to provide alternative theories for change, greater understanding of underlying processes and, crucially, better approaches. In some sectors, ‘complex’ models of implementation are already well-established. Some of the principles we discuss below are drawn from the field of Natural Resource Management, where lessons have been learned over decades. While such models are relatively new in other sectors, they are nonetheless beginning to be picked up in innovative programmes.

There certainly are alternatives to the traditional implementation ‘toolkit’. Actors charged with implementing policies and programmes in the face of complexity need to take responsibility for choosing an appropriate approach, and there are existing insights to help them address complex problems in a strategic and directed manner.

Far from being irrelevant when tackling complex issues, evidence from a synthesis of experience across a very broad range of sectors and contexts (Jones, 2011) suggests that knowledge becomes one of the most crucial resources for effective design and implementation, and the ways in which policy draws on available knowledge becomes a central determinant of success. The difference is that policy-makers must shape programmes in a way that recognises the constraints and opportunities on where, when and how knowledge and decision-making can best be linked.

## Where

Implementing agencies need to collaborate and facilitate decentralised action and self-organisation. This can be done in the following ways:

- **Decentralisation and autonomy:** one priority is to decentralise policy-making and implementation, distributing decision-making power and involvement and allowing increased autonomy for units lower in a hierarchy.
- **Engaging local institutions:** implementing agencies may need to work with and through local organisations to address an issue at different scales and anchor interventions in local realities. For complex problems this may work best through co-management and power sharing.
- **Convening and boundary management:** implementing agencies may be able to play a role in facilitating processes that build trust and collaboration between stakeholders. They must act as trustworthy stewards of these processes, including providing transparent mechanisms for conflict resolution.
- **Building adaptive capacity:** capacity-building is central to enable actors to capitalise on any autonomy for addressing problems. Support for adaptive capacity and networks is crucial to stimulate emergent responses.
- **Removing the barriers to self-organisation:** many types of barriers and systemic issues prevent actors from adapting to emerging problems, such as the barriers to enabling national legislation or political systems, or issues of power, discourse and social capital.
- **Supporting networked governance:** agencies need a networked approach to governance, appropriate structures are needed to hold units accountable, and relationship management and participatory processes are crucial.
- **Leadership and facilitation:** even where the capacity to act is distributed, leadership is a critical variable. In the face of complex problems, leadership must be facilitative and enabling, working through attraction rather than coercion, and communicating a vision of change around which responses can emerge.
- **Incremental intervention:** where a central agency needs to intervene, this should be handled incrementally, starting from existing networks and taking an evolutionary approach that ‘seeds’ decentralised action and supports emerging responses, rather than implementing idealistic blueprints.

One example of the application of these principles can be seen in the stimulation of rice farming in the early 1980s in Sri Lanka (Uphoff, 1996) in an area emerging from 30 years of water stealing and conflicts between farmers. A USAID-funded programme built on and facilitated social capital to enable emergent institutions. Institutional organisers were recruited to act as catalysts for farmers; organisations, living alongside farmers and starting at field level and at

a pace the farmers could accept. The approach was informal until farmers themselves requested a more formal structure, which grew over time. When the programme ended in 1986, about 12,500 farmers were involved, tackling issues such as water management, crop protection and employment creation. Ten years after the end of the official programme, and against expert predictions that there was not enough water to go round and failing harvests elsewhere, these farmers achieved a better-than-average crop.

## When

Implementing agencies need to deliver adaptive responses to problems, building space for interventions to react to emerging lessons from implementation. This can be done in the following ways:

- **Appropriate planning:** ex ante analysis should be light and flexible, focusing on utility by, for example, enhancing awareness of key risks or lessons to ensure that implementation ‘does no harm’. Accountability can be tied to clear principles for action, rather than results or plans, and rules for the adjustment of plans can be pre-set.
- **Iterative impact-oriented monitoring:** on-going monitoring of the effects of an intervention is vital and this should revise understandings of how to achieve change, rather than just recording progress. Utilisation should be actively promoted in order to ensure that evaluations feed into timely adaptation. One way of doing this is for intended ‘users’ of the evaluation to design and oversee the study.
- **Stimulating autonomous learning:** in the face of complex problems, actors are more likely to respond to evidence where it emerges in the context of trust and ownership. Monitoring and Evaluation (M&E) functions must be embedded throughout implementation chains, with devolved autonomy to shape M&E frameworks.
- **Implementation as an evolutionary learning process:** experimentation through intervention could be at the centre of an evolutionary implementation process, revolving around variation, where different options are pursued, and then selection, where successes are replicated on the basis of feedback.
- **Creating short, cost-effective feedback loops:** judicious use of participatory M&E matters because who carries out the monitoring has proven to be a crucial determinant of effective adaptation. Local methods to involve citizens in the governance of implementation are available, including systems for feedback and transparency.
- **Accountability for learning:** measures may be needed to ensure that policies value learning as well as delivery. Intervention must be seen as an expression of hypotheses and complex tasks may require learning objectives rather than performance goals. Promoting innovation in service delivery may mean valuing redundancy and variety.



Overseas Development Institute

111 Westminster Bridge Road, London SE1 7JD

Tel +44 (0)20 7922 0300

Fax +44 (0)20 7922 0399

Email publications@odi.org.uk

Readers are encouraged to reproduce material from ODI Briefing Papers for their own publications, as long as they are not being sold commercially. As copyright holder, ODI requests due acknowledgement and a copy of the publication. For online use, we ask readers to link to the original resource on the ODI website.

The views presented in this paper are those of the author(s) and do not necessarily represent the views of ODI.

© Overseas Development Institute 2011  
ISSN 0140-8682



Printed on recycled paper, using vegetable-based inks



MIX Paper from responsible sources FSC® C021423

These principles have been applied to decentralised healthcare provision in Brazil. The growth of the health system is based on principles of decentralised universal access, and mutually reinforcing public participation and innovation have been central to its success. Community participation is integrated at a variety of levels, such as through health councils, and strong popular support has helped ensure the system's continuity. This, alongside flexibility for adaptation, allowed innovation in service delivery, such as the deployment of auxiliary workers, the employment of local people as assistants to health professionals, and the creation of networks around the Family Health Strategy to transform older primary care centres into polyclinics.

### How

Implementation processes must draw on an eclectic mix of knowledge sources at different levels and times. However, tools that allow the negotiation between and synthesis of multiple perspectives are vital, such as:

- **Decisions from deliberation:** deliberative processes that are carefully managed and structured have benefited both the decisions made and their implementation. Such processes must be embedded in inclusive, face-to-face fora to gather reasoned inputs to action.
- **Focusing on how change happens:** analytical and management efforts must be guided by how change happens in a specific context. Ideas and assumptions underlying implementation must be made explicit in order to be tested; planning tools such as 'theory of change' and theory-based evaluation may assist.
- **Realistic foresight:** foresight and futures techniques can provide broad and realistic forward-looking analysis and fix shared structures for on-going implementation. Tools such as scenario planning enable organisations to be both resilient and nimble.
- **Peer-to-peer learning:** rather than focusing on technocratic knowledge-transfer processes, learning often works better through peer networks, e.g. with study tours or 'peer review'. Communities of practice show how the informal dynamics can drive creativity and reflection.
- **Broadening dialogues:** argument can inform and improve the foundations of policy and action, and implementation should aim to build and work with critical voices. It is important to promote reflexive research and build the capacity of disadvantaged stakeholders to voice their opinions.

- **Sense-making for common ground:** a shared vision of the problem is often a prerequisite for progress on complex issues. Key stakeholders must jointly negotiate concepts and models, and boundary objects such as shared models or standards can help to anchor collective action.
- **Facilitation and mediation:** efforts to combine different sources of knowledge must tread carefully, and policy-makers must become adept in managing power in the knowledge-policy interface.

These principles have been applied in an innovative irrigation programme in the central hills of Nepal, which facilitated self-organisation. It began by mapping existing irrigation efforts, working only where farmers had expressed an interest and committed resources to system improvements. The planning was led by farmers who prioritised improvements and managed their own user groups. Tools to link knowledge with implementation were embedded through multi-skilled implementation teams and peer-to-peer learning, with study tours and site visits enabling the transfer of practices. Farmers from well-managed systems acted as consultants, and new ideas were integrated through guided discussions between farmers and by training tours that coincided with meetings of local decision-making bodies.

### Conclusion

Our research has not attempted to specify what problems should be considered 'complex'. The extent to which any one challenge exhibits all of the defining characteristics of complexity outlined in this paper will vary, and will require deliberation and judgement rather than calculations and deduction. Similarly, the relevance of the outlined principles and priorities is also likely to vary, and implementation may well require a mixture between these and more traditional approaches.

The tools laid out in this paper are not magic bullets. Like all tools, they have their appropriate place, and need to be applied well and with sensitivity to context.

What is clear, however, is that complexity can no longer be swept under the carpet – individuals and organisations must recognise it and take responsibility for implementing appropriate solutions.

Written by Harry Jones, ODI Research Fellow, Research and Policy in Development Programme (h.jones@odi.org.uk).

### References

- Glouberman, S. and Zimmerman, B. (2002) 'Complicated and complex systems: what would successful reform of medicare look like?'. Discussion Paper 8. Ottawa: Commission on the Future of Healthcare in Canada.
- Natsios, A. (2010) *The clash of the counter-bureaucracy and development*. Washington, DC: Center for Global Development.
- Jones, H. (2011) *Taking responsibility for complexity: How implementation can achieve results in the face of complex problems*. ODI Working Paper 330, June. London: ODI.
- Ramalingam, B. and Jones, H. with Young, J. And Reba, T. (2008) *Exploring the science of complexity: Ideas and implications for development and humanitarian efforts*. ODI Working Paper 285, October. London: ODI.
- Uphoff, N. (1996) *Learning from Gal Oya: possibilities for participatory development and post-Newtonian social science*. London: IT Publications.

Photo credit: Flickr/Dominic Sansoni, World Bank.